ABSTRACT OF THE DISCLOSURE

A lead-free, composite polymer based bullet and cartridge case and methods of manufacturing the same, wherein the composite polymer material includes a tungsten metal powder, nylon 6/6, nylon 6, short glass fibers, as well as additives and stabilizers. The cartridge case includes a lip lock configured to matingly engage a cannelure formed along an outer circumferential surface of the bullet. The cartridge case also includes resilient walls wherein the case may snap fit onto the bullet. The bullet and cartridge case may be formed in a single step process by injection molding or a two step process including injection molding and a welding process.